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Naked Singularities in Higher Dimensional Gravitational Collapse

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abstract Spherically symmetric inhomogeneous dust collapse has been studied in higher dimensional space-time and the factors responsible for the appearance of a naked singularity are analyzed in the region close to the centre for the marginally bound case. It is clearly demonstrated that in the former case naked singularities do not appear in the space-time having more than five dimension, which appears to a strong result. The non-marginally bound collapse is also examined in five dimensions and the role of shear in developing naked singularities in this space-time is discussed in details. The five dimensional space-time is chosen in the later case because we have exact solution in closed form only in five dimension and not in any other case.